REMARKS

Applicant wishes to thank the Examiner for discussing this case on June 15, 2006, at which time the new matter rejections and art rejections were discussed in preparation for the present RCE.

Claims 1-23 are pending in the present application. In the final Office Action of January 31, 2006, claims 1 and 18 were rejected under 35 U.S.C. §112, first paragraph, for including new matter. Additionally, claims 1-3, 8, and 14-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Thibault in view of Stawikowski. Additionally, claims 4-7, 9-11, and 20-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Thibault in view of Stawikowski in further view of Kastner. Finally, claims 12 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Thibault in view of Stawikowski in further view of Kalajan.

Rejections under §112, first paragraph

The Office Action rejected claims 1 and 18 under §112, first paragraph, for including new matter. In particular, responsive to the previous Amendment filed in the present application, the Office Action rejected claim 1 for the amended additions to the claims that called for "an Internet communications program that receives an Internet signal having socket API data and formatted in accordance with <u>an Internet transport layer protocol and an Internet network layer protocol</u> a TCP/IP protocol" and "wherein the network signal is not formatted in accordance with the <u>Internet transport layer protocol and an Internet network layer protocol</u> TCP/IP protocol." Similarly, the Office Action rejected claim 18 for calling for "wherein the Internet signals are formatted in accordance with an <u>IP protocol</u> Internet-type protocol and the network signals are not formatted in accordance with the Internet-type protocol <u>the IP protocol</u>."

With respect to the amendment to claim 18, Applicant contends that an amendment that changes the term "Internet-type protocol" to "IP protocol" is not new matter. At the time the application was filed, one of ordinary skill in the art would

understand that the broad phrase "Internet-type protocol" readily encompasses the narrower "IP protocol." In support, Applicant cites pages 9 and 10 of the Specification, which provide detailed explanations of "IP protocols".

With respect to claim 1, Applicant cites pages 8 through 10 of the Specification as teaching the requisite "Internet transport layer protocol" and "Internet network layer protocol." As described in the exhibit presented with the original amendment (www.protocols.com/pbooks/tcpip1-htm), IP is an Internet "network layer" protocol and, TCP and UDP are Internet "transport layer" protocols. FTP and HTTP are common "application layer protocols". To this end, pages 4 and 6 as well as pages 8 through 10 explain each of these "layers".

For at least these reasons, Applicant believes that the rejections under §112, first paragraph, have been overcome.

Rejections under §103(a)

Claims 1-3, 8, and 14-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Thibault in view of Stawikowski.

Generally the present invention allows industrial control devices to communicate with remote Internet users, even though the control devices don't have powerful enough computers to handle the full program needed for that communication (e.g., the TCP/IP stack).

In particular, the claimed invention allows control devices to run only the application layer of Internet communication protocol (i.e., serve HTTP) and moves the transport layer protocol and a network layer protocol (e.g., TCP/IP) to a central Internet interface. When Internet data arrives at the industrial controller, the Web access interface strips off the HTTP and then forwards the data to the control devices using the standard industrial control communication protocol which does not support the Internet transport layer and network layer protocol. Again, this operability is described on page 4 and page 5 of the present application.

The Office Action cited <u>Thibault</u> as disclosing an industrial control system providing for web access to "control devices". However, <u>Thibault</u> teaches that the individual "control devices" cannot serve web data because they don't have an application layer program. To this end, <u>Stawikowski</u> was cited as teaching the serving of web data from control modules and transmitting that web data to the Internet using UDP/IP (an Internet transport and network protocol).

As the claim was originally drafted, it was required that the web data at the control devices be transmitted over a control network not supporting TCP/IP. Technically <u>Stawikowski</u> in teaching the use of UDP/IP teaches a non-TCP/IP communication with control devices. Yet <u>Stawikowski</u> clearly teaches away from the intended benefit of the present invention in eliminating the need for the control devices that support a complex Internet communication protocol in addition to the protocol of the standard control network.

Accordingly, the Applicant amended claims 1, 18 and 21 to indicate that the communication with the control devices <u>must not use</u> an Internet transport and network layer protocol. This limitation was embodied in elements of claim 1 that call for "an Internet communications program that receives an Internet signal having socket API data and formatted in accordance with <u>an Internet transport layer protocol and an Internet network layer protocol</u>" and "wherein the network signal is not formatted in accordance with the <u>Internet transport layer protocol and an Internet network layer protocol</u>."

Since the device resulting from a combination of <u>Thibault</u> and <u>Stawikowski</u> clearly could not provide the intended benefit of the present invention by eliminating the overhead of the transport and network layer protocol of TCP/IP or UDP/IP (since <u>Stawikowski</u> requires UDP/IP to facilitate communication), Applicant asserted that the claimed invention was patentably distinct from the art of record.

A significant distinction between the present invention and the combination of <u>Thibault</u> and <u>Stawikowski</u> is that the latter combination prevents the control devices from being self-contained with respect to the data they exchange with a browser on the

Internet. Thibault requires the creation and downloading of new objects to the object manager 25 as new control devices are added to the control system. The objects are necessary to interpret data held in the control devices as application layer data readable by a browser. While Thibault recognizes that it is impractical for the control devices to hold an entire Internet stack (network, transport and application layers), Thibault does not recognize that a portion of the stack (the application layer) could be efficiently held in the control devices. Furthermore, Thibault does not recognize that by allowing the control devices to hold the application layer, the need to reprogram a central object manager for each new object is eliminated. Thibault and Stawikowski fail to teach the communication of socket API data (application layer data) from the control devices to a web access interface without using an Internet transport layer protocol and an Internet network layer protocol. Hence, the claimed invention is a significant improvement over the art of record.

Therefore, claim 1 as a whole, including the subject matter that was apparently not considered because it was incorrectly considered new matter, is patentability distinct from the art of record. As such, claims 2-17 are in condition for allowance at least pursuant to the chain of dependency.

Regarding claim 18, this claim was amended in a manner similar to that of claim 1 so as to indicate that the signals received by the "first means" must be formatted in accordance with the IP protocol (a network layer protocol) while the signals sent to the control device cannot be formatted in accordance with the IP protocol. Accordingly, the proposed combination of Thibault and Stawikowski in which TCP/IP is translated into UDP/IP would not anticipate these claims since both use IP. Furthermore, the cited combination does not contemplate the goal of eliminating the need for network layer and transport layer programs in each of the individual devices (because both TCP/IP and UDP/IP are network and transport layers) because such would require excess memory and processing capability beyond the typical control devices at this time. In this regard, Applicant asserts that the combination of Thibault and Stawikowski does not teach or suggest that which is called for in claim 18. In fact, Applicant asserts that

the proffered combination actually teaches away from the claimed invention by proposing a system that does not provide the benefit of the present invention. Hence, the proffered combination is improper under MPEP §§ 2141.02, 2143, and 2145.

Regarding claim 21, although unaddressed in the Office Action, the claim calls for socket API data to be extracted from the TCP/IP protocol on the Internet and retransmitted to the control devices using a control network protocol, for example, DeviceNet or ControlNet, as listed in the present application. However, Stawikowski teaches retransmission of this data in UDP/IP protocol, which is an Internet protocol and not a control network protocol. Accordingly, the proffered combination of Thibault and Stawikowski could not be said to suggest that which is called for in claim 21.

Responsive thereto, the Office Action cited Stawikowski's explanation of SOAP protocols for communication of both configuration and programming. However, Stawikowski does not teach or suggest the claimed steps of *extracting* socket API data in the form of a socket API signal, determining an appropriate destination control device from among the plurality of control devices, *formatting* the socket API signal in accordance *with a control network protocol* and an internal media access control protocol *to produce a network signal*, and delivering the network signal to the appropriate destination control device so that the socket API data can be processed by the respective web server program. Rather, as described in Stawikowski, SOAP, a general protocol for object access and not a control network protocol like DeviceNet or ControlNet, is utilized for a broad sweeping range of communications. Hence, Stawikowski cannot be said to teach or suggest the claimed method that includes extracting socket API data from the TCP/IP protocol on the Internet and then reformatting and retransmitting data to control devices using a control network protocol.
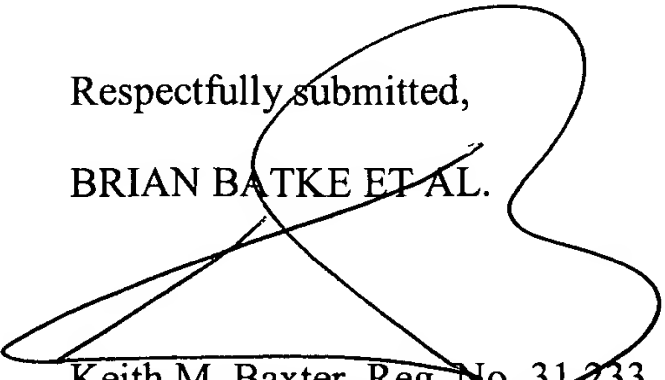
Therefore, for at least these reasons, claim 21 is patentably distinct from the art of record. Accordingly, claims 22 and 23 are in condition for allowance at least pursuant to the chain of dependency.

Additional clarifying claim amendments have been made to indicate better the relationship of the elements of the present invention to the control network.

Accordingly, Applicant believes the application is in condition for allowance, and a Notice of Allowance is requested. However, should the Examiner disagree, the Examiner is invited to contact the undersigned at the telephone number appearing below if it is believed that such would advance the prosecution of this application.

Respectfully submitted,

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